

STATE FOREST LAND
SEPA ENVIRONMENTAL CHECKLIST

Purpose of checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for applicants:

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

Questions in italics are supplemental to Ecology's standard environmental checklist. They have been added by the DNR to assist in the review of state forest land proposals. Adjacency and landscape/watershed-administrative-unit (WAU) maps for this proposal are available on the DNR internet website at <http://www.dnr.wa.gov/sepa>. These maps may also be reviewed at the DNR regional office responsible for the proposal. This checklist is to be used for SEPA evaluation of state forest land activities.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for Lead Agencies:

Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals:

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

A. BACKGROUND

1. Name of proposed project, if applicable:

Timber Sale Name: **Saddle Up VRH RMZ**
Timber Sale Name: **Buckle Up Sorts**

*Agreement #***30-098071**
*Agreement #***30-098676**

2. Name of applicant: **Washington Department of Natural Resources**

3. Address and phone number of applicant and contact person:

DNR Northwest Region
919 North Township Street
Sedro Woolley, WA 98284
(360) 856-3500
Contact person: Laurie Bergvall

4. Date checklist prepared: **01/17/2019**

5. Agency requesting checklist: **Washington Department of Natural Resources**

6. Proposed timing or schedule (including phasing, if applicable):

- a. *Auction Date:* **06/12/2019**
- b. *Planned contract end date (but may be extended):* **03/31/2022**
- c. *Phasing:* **Does not apply.**

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

Timber Sale:

- a. *Site preparation:*
Harvest units may be treated with herbicides prior to planting. Assessment for treatment will occur after completion of harvest.
- b. *Regeneration Method:*
Hand plant conifer seedlings in the VRH portions of the proposal within two years after completion of harvest. Stocking level will meet or exceed Forest Practices standards.
- c. *Vegetation Management:*
Treatment to be assessed in 3-5 years. Competing vegetation may be treated by manual cutting and/or herbicide.
- d. *Thinning:* **The need for a pre-commercial thinning will be assessed in 10 to 15 years. A commercial thinning is possible in 25 to 45 years.**

Rock pits and roads:

Roads: The CH-ML, CH-20, CH-25, CH-37, CH-43, EK-ML, EK-49, EK-73 and EK-7302 roads will be used for future management activities.

Rock Pits: The CH-40 and EK-6612 hardrock pits will be used for future management activities.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

303 (d) – listed water body in Woods Creek WAU: Skykomish River temp sediment
 completed TMDL (total maximum daily load):

Landscape plan:

Watershed analysis: Woods Creek Watershed Analysis

Interdisciplinary team (ID Team) report:

Road design plan: dated 01/07/2019

Wildlife report: Wildlife memo from region biologist, Lisa Egtvedt, dated 01/16/2019, WDFW MM Habitat Consultation Memo from region biologist, Lisa Egtvedt, dated 12/19/2018

Geotechnical report:

Other specialist report(s):

Memorandum of understanding (sportsmen's groups, neighborhood associations, tribes, etc.):

Rock pit plan:

Other: State Soil Survey, 1992; Policy for Sustainable Forests, December 2006; Final Habitat Conservation Plan (HCP) & Environment Impact Statement, September 1997; Riparian Forest Restoration Strategy

Above Documents available at Northwest Region.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

None known.

10. List any government approvals or permits that will be needed for your proposal, if known.

FPA # _____ FHPA Burning permit Shoreline permit Incidental take permit
 Existing HPA Other:

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

a. *Complete proposal description:*

Proposal Area:

The proposal is a multiple unit variable retention harvest with a thinning component, with an estimated harvest volume of 13,741 MBF of timber, on State managed trust lands. The harvest removals are planned for ground-based systems. Cable yarding systems may be used as an option.

Approximately 400 gross acres were considered for this proposal; this has been reduced to 290 net acres due to operational feasibility, unstable slopes, existing roads, wetland buffers, and stream buffers.

Road work will be completed as part of this proposal, as listed in A.11.c.

Timber stand description pre-harvest (include major timber species and origin date), type of harvest, overall unit objectives.

Pre-Harvest Stand Description:

- Approximately 60-80 years old
- Top height: 100-120 feet
- Basal area: 178-229
- Composed primarily of western hemlock and Douglas-fir, with lesser amounts of Pacific silver fir, red alder, black cottonwood, and western redcedar.

Type of Harvest:

- Variable Retention Harvest (VRH), even-aged, with a leave tree retention component.

Overall Unit Objectives:

- Generate revenue for the State trust beneficiaries.
- Protect water quality, maintain site productivity, and maintain wildlife habitat through a leave tree retention strategy.
- This proposal meets or exceeds all guidelines set forth in the DNR Habitat Conservation Plan (HCP), Policy for Sustainable Forests, and Forest Practices Rules and Regulations.

Wildlife Objectives:

- VRH Harvest: The general wildlife objective is to minimize immediate impact to current wildlife populations while retaining some unique characteristics for future wildlife habitat needs. Leave tree areas and single leave trees were designed to contain trees resistant to wind throw, while protecting relatively unique features such as large down woody debris, riparian and wet areas, multi-cohort segments and large and structurally unique trees. Many leave trees were selected for their future snag retention potential. Leave trees are representative of the proposed sale timber type, which consists of a hardwood and conifer species mix. Snags are left where possible and if they meet the Washington State Department of Labor and Industry Safety Guidelines.

c. Road activity summary. See also forest practice application (FPA) for maps and more details.

Type of Activity	How Many	Length (feet) (Estimated)	Acres (Estimated)	Fish Barrier Removals (#)	Steepest Side Slope Road Crosses
Construction		0	NA		NA
Reconstruction		2,086		0	30%
Abandonment		7,478	0.8	0	30%
Temporary Construction**		3,614	1.4		45%
Prehaul Maintenance		898			
Bridge Install/Replace	0				
Culvert Install/Replace (fish)	0				
Culvert Install/Replace*	1				

*This refers to only typed stream crossings and does not include relief culverts.

**Of the length listed for Temporary Construction in the above table, zero feet up to the entire length listed may be built. Temporary Construction is defined under Forest Practices as forest road that is constructed and intended for use during the life of an approved forest practices application/notification.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. (See maps on DNR website: <http://www.dnr.wa.gov/state-environmental-policy-act-sepa>. Click on the appropriate region under "Current SEPA Actions – Timber Sales.")

a. Legal description:

**Sections 18, 19, 20, 28, 29 and 30 of Township 29 North, Range 8 East
Legal description includes area of units, rock pits, and roadwork.**

b. Distance and direction from nearest town (include road names):

The proposal is located approximately 15 miles southeast of Granite Falls (8 miles to Monroe Camp Rd, and 7.0 miles to sale from Monroe Camp Rd).

c. Identify the names of all watershed administrative units (WAU). See also landscape/WAU map on DNR website: <http://www.dnr.wa.gov/state-environmental-policy-act-sepa> under the topic "Current SEPA Project Actions – Timber Sales."

WAU Name	WAU Acres
Pilchuck Mountain	41,341
Woods Creek	42,501
Sultan River	23,383

13. Discuss any known future activities not associated with this proposal that may result in a cumulative change in the environment when combined with the past and current proposal(s). (See digital ortho-photos for WAU and adjacency maps on DNR website <http://www.dnr.wa.gov/state-environmental-policy-act-sepa> for a broader landscape perspective.)

Information based on Department GIS reports dated July 9, December 19 and November 1, 2018.

WAU Name	Acres	DNR-Managed Lands	Federal & Other Acres	% DNR Managed Land	% Fed. & Other Land	% of proposal in WAU
Pilchuck Mountain	41,341	28,295	13,046	68.4	31.6	31
Woods Creek	42,501	13,238	29,263	31.1	68.9	35
Sultan River	23,383	12,917	10,446	55.2	44.8	34

Past and Future DNR Activities in WAUs

DNR Managed Lands – Past Harvests

The following table reports timber harvest activity in the WAUs within the past seven years on both DNR managed lands and non-DNR lands. The data was compiled from the Department’s Forest Practices’ Geographic Information System (GIS) database, report dated July 9, December 19 and November 1, 2018.

Forest Practices Approved Applications for Harvest Activities

WAU	DNR harvest acres: even-aged	DNR harvest acres: uneven-aged	Non-DNR harvest acres: even-aged	Non-DNR harvest acres: uneven-aged
Pilchuck Mountain	1047	199	700	53
Woods Creek	844	73	488	62
Sultan River	919	19	218	395

NOTE: This information is derived from activity locations collected by varying methods ranging from hand drawn maps to precise GPS collection. No verification of map accuracy or activity completion is conducted. Totals may not be the sum of all harvest types due to overlapping activities. The same land may be counted more than once if, in the past seven years, more than one forest practice application has been approved for different harvests (even-age for example). Future harvest acres for non-DNR lands are difficult to determine and are not represented in the table.

NOTE: All acreages are approximate. Rounding to the nearest 10 or even to the nearest 50 acres may be appropriate. Totals may not be the sum of all harvest types due to overlapping activities.

DNR Managed Lands – Future Harvests

The following data was reported in the Department’s GIS database on July 9, December 1 and November 19, 2018. No attempt was made to predict future timber harvests on private land. The current proposal acreage is not included in the future harvest acreage in the WAUs.

WAU	Estimated DNR harvest acres of proposals through 2024
Pilchuck Mountain	2,800
Woods Creek	1,425
Sultan River	1,005

NOTE: Acres include even-aged, uneven-aged and salvage. Expected harvest acres and gross acres and include multiple proposals that may not be feasible harvest areas but are simply scheduled for review and reconnaissance. No screening for slope stability, wildlife habitat, stream impacts, or other issues has been completed on these reported acres.

NOTE: All acreages are approximate. Rounding to the nearest 10 or even to the nearest 50 acres may be appropriate. Totals may not be the sum of all harvest types due to overlapping activities.

Future forest management activities in these WAUs include road building, rock pit expansion, silvicultural work and timber harvesting. Activities occurring on DNR managed land will follow Forest Practices Rules, Habitat Conservation Plan (HCP) guidelines, and the Policy for Sustainable Forests – policies designed to minimize environmental impacts. Future forest management activities on privately managed, non-DNR lands will be subject to the Forest Practices Rules.

The Department's Habitat Conservation Plan (HCP) outlines strategies to protect federally listed threatened and endangered species, and species that are in danger of being listed in the future, as well as uncommon habitat types found on forest lands in western Washington. HCP riparian buffers intended to protect salmon and trout habitat were applied to this proposal, and will be applied to all future sales in the vicinity. The HCP identifies large, structurally unique trees and snags as uncommon habitats that need to be protected. An average of 8 trees per acre will be left in the proposed VRH portions of the proposal. These trees will function for future snag and large structurally unique tree recruitment.

The Interim Strategy for the Marbled Murrelet in the North Puget Planning Unit, part of the Department's HCP, requires Department field staff to search for and delineate any "newly identified" marbled murrelet habitat in the vicinity of any proposed timber sales. These stands may be deferred from timber harvest throughout the remainder of the Interim Strategy (with occasional exceptions made to allow road and/or yarding access into non-habitat areas), and may be considered to be left un-harvested for a longer period of time under the Department's yet-to-be-developed Long-Term Strategy for marbled murrelets. A region biologist has verified field staff's habitat delineation in the area of the proposal. A 5.4 acre patch of newly-identified suitable habitat fitting the description of marginal marbled murrelet nesting habitat was discovered in the proposal area. According to the NPPU Interim Murrelet Strategy (aka 2007 Ken Berg memo), this type of habitat is not required to be deferred.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (check one):

Flat, Rolling, Hilly, Steep Slopes, Mountainous, Other:

1) *General description of the WAU or sub-basin(s) (landforms, climate, elevations, and forest vegetation zone).*

Pilchuck Mountain WAU:

The Pilchuck Mountain WAU is within the westside western hemlock vegetation zone, and contains several coniferous species including Douglas-fir, western redcedar, western hemlock, and Pacific silver fir. Red alder, bigleaf maple, and black cottonwood also occur intermixed with the conifers, typically in more disturbed or wet sites. Landforms within this

WAU range from steep, rocky slopes to gently sloping lowlands. The majority of this WAU is in the rain-dominated zone and receives 40-100 inches of rain in an average year. The elevation ranges from 272 to 5,282 feet and the upper elevations contain the relatively small percentage of the Pilchuck Mountain WAU that is in the Significant Rain on Snow Zone. Higher elevations in the WAU contain conifer stands generally comprised of Pacific silver fir, western hemlock, and Douglas-fir.

Sultan River WAU

The Sultan River WAU is divided by the Sultan River. It has an average of 55 inches of annual precipitation. The southwestern portion of the WAU is gently rolling terrain with occasional steeper slopes. Much of this portion has been developed for residential and agricultural uses. The central portion of the WAU is generally rolling terrain with occasional deep, incised gorges carrying major tributaries. The central portion of the WAU includes the major tributary of Marsh Creek. Elevations in this portion range from 600 to 2,300 feet. Slopes average 25% to 55% with some in excess of 70%. The eastern portions of the river valley start at low elevations and rise to steep mountainous terrain. Elevations in this portion range from 600 to 3,000 feet at the top of Blue Mountain. Slopes average 40% to 55% with some in excess of 70%. Western hemlock and Douglas-fir dominate most of the forest stands in the Sultan River WAU.

Woods Creek WAU

The WAU has an average of 46 inches of annual precipitation, and occurs predominately as rain. The WAU occupies part of a vast plain formed by regional glaciations some 10,000+ years ago. Terrain on the till plain is gently rolling to moderately sloping with shallow depressions and swales. Eighty-five percent of the WAU has ground slopes of less than 30%. Steep escarpment slopes border the floodplain of most main streams. These steep slopes were formed as streams cut into the till plain. Elevations within the WAU range from 40 feet to 1,870 feet in the northeast corner. The average elevation is about 500 feet, with only 4% over 1,000 feet and is affected by a maritime climate, with cool wet winters and mild summers. The greater part of the WAU is within the westside western hemlock zone, the largest vegetation zone in western Washington. Most of the forest stands in this zone are composed primarily of western hemlock with western redcedar in lower, wetter areas and Douglas-fir in higher, drier ones. Red alder, black cottonwood and bigleaf maple can also be found forming smaller stands throughout the WAU.

A watershed analysis was conducted for the Woods Creek WAU in 1994 which focused on the following areas of resource sensitivity: surface erosion, mass wasting, hydrology, and riparian functions including shade, channel bed morphology, and fish habitat. The results from these analyses were used to design a series of prescriptions to protect and allow for the recovery of these resources. This proposal is not located in any areas of resource sensitivity as defined by the Woods Creek Watershed analysis, so no additional prescriptions were applied.

- 2) *Identify any difference between the proposal location and the general description of the WAU or sub-basin(s).*

The proposal area is consistent with the WAU descriptions above.

b. What is the steepest slope on the site (approximate percent slope)?

70%

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

Note: The following table is created from state soil survey data. It is a roll-up of general soils information for the soils found in the entire sale area. It is only one of several site assessment tools used in conjunction with actual site inspections for slope stability concerns or erosion potential. It can help indicate potential for shallow, rapid soil movement, but often does not represent deeper soil sub-strata. The actual soils conditions in the sale area may vary considerably based on land-form shapes, presence of erosive situations, and other factors. The state soil survey is a compilation of various surveys with different standards.

State Soil Survey #	Soil Texture	% Slope	Mass Wasting Potential	Erosion Potential
6126	SILT LOAM	30-65	MEDIUM	MEDIUM
1949	SILT LOAM	3-30	INSIGNIFICANT	LOW
1956	ROCK COMPLEX	30-65	No Data	No Data
1955	SILT LOAM	3-30	INSIGNIFICANT	LOW
2453	SILT LOAM	3-30	INSIGNIFICANT	LOW
6054	SILT LOAM	0-8	INSIGNIFICANT	LOW
8113	GRAVELLY LOAM	30-60	MEDIUM	MEDIUM
8103	GRAVELLY LOAM	0-8	INSIGNIFICANT	LOW
8112	GRAVELLY LOAM	15-25	INSIGNIFICANT	LOW
8106	GRAVELLY LOAM	15-25	Insignificant	Low
8105	GRAVELLY LOAM	8-15	Insignificant	Low
9136	GRAVELLY LOAM	0-8	Insignificant	Low
4694	GRAVELLY SILT LOAM	0-5	Insignificant	Low
7409	GRAVELLY LOAM	0-30	INSIGNIFICANT	LOW

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

1) *Surface indications:*

There are stream adjacent inner gorges in the vicinity of units 3 and 4.

A bedrock deep-seated landslide was mapped by a Department Licensed Engineering Geologist-in-Training using LiDAR and field verification methods approximately 800 feet outside of the proposal area. A glacial landslide and its groundwater recharge area was mapped (GWRA). This glacial landslide and its GWRA are approximately 400 feet from the proposal area and separated from the GWRA by drainage divides.

The statewide landslide inventory (LSI) screening tool indicates no presence of polygons mapped as landslides within the proposed harvest unit boundaries. This landslide database is maintained by the Washington State Department of Natural Resources, Forest Practices Division. The LSI includes landslides mapped during many different projects including large-scale geologic mapping, watershed analyses, landscape planning, and landslide hazard zonation, in addition to other case studies and mapping efforts. A large majority of landslides identified by these projects are mapped by remote review with minimal field verification. In addition, dormant and ancient deep-seated landslides are mapped in many projects included in the LSI. A large number of the remotely identified landslides and deep-seated features have been mapped with a questionable, probable, or unknown certainty. As a result, the LSI database is meant to be used as a screening tool and field verification is a necessary step in confirming the absence, presence, and extent of mapped features, as well as their actual level of activity/instability.

2) *Is there evidence of natural slope failures in the sub-basin(s)?*

No Yes, type of failures (shallow vs. deep-seated) and failure site characteristics: There is evidence of slope failures throughout the Pilchuck Mountain, Woods Creek and Sultan River WAUs. These failures are predominately on the steepest slopes or within stream channels where rapid moving waters have undercut side slopes. Most are shallow rapid landslides, which have initiated within stream channels.

3) *Are there slope failures in the sub-basin(s) associated with timber harvest activities or roads?*

No Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:

Associated management activity: Shallow failures of historic sidecast fill roads have occurred in steep hillside terrain. Such failures are less likely to occur with current road building and harvest practices. Current Forest Practices regulations and HCP guidelines protect streams with buffers and leave trees. Culverts used on current roads are sized for a 100-year flood.

4) *Is the proposed site similar to sites where slope failures have occurred previously in the sub-basin(s)?*

No Yes, describe similarities between the conditions and activities on these sites: Sites that have had slope failures within the sub-basin(s), have historically been associated with road construction through areas containing steep slopes and convergent topography. No road construction associated with this proposal will occur in areas with steep convergent topography.

5) *Describe any slope stability protection measures (including sale boundary location, road, and harvest system decisions) incorporated into this proposal.*

The proposal was reviewed in the office and field by a State Lands (SL) geologist-in-training (GIT) under the supervision of a Qualified Expert on 8/1, 11/1, 11/8 and 12/5/2018.

It was determined by the SL-GIT that both the bedrock deep-seated landslides and the glacial landslide and its GWRA are far enough outside of the proposal area so no impacts as the result of this proposal are anticipated.

All inner gorges were bound out of the proposal area by a distance of two dominant tree crown widths on the up slope side of the break in slope.

Roads are located on gentle terrain and are located to minimize impacts from harvesting. Roads are designed to minimize yarding distances for cable/ground based yarding and provide access to locations to set up cable yarding systems. Best Management Practices (BMPs) will be applied to reduce site disturbance. Pipes and culverts have been strategically located to minimize sediment delivery.

- e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

Approx. acreage new roads: 2.2 Approx. acreage new landings: 2.0 Fill source: Native fill or rock.

Road construction will utilize standard cut and fill methodology, full bench construction (as necessary) with end haul or side cast to obtain grade and alignment. Native soil and rock will be excavated from the road prism and used for fill in the sub-grade and over cross drains and stream crossings.

- f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe. **Road construction will expose bare soil. Road plan requirements include the use of grass seed and/or other revegetation methods to protect exposed soils from erosion.**

Minor erosion may occur from freshly exposed soils along road cut slopes and embankment slopes. Erosion could result from road and landing construction during periods of heavy rainfall or as a result of yarding during periods of saturation. Additionally, erosion could result if ditches and culverts are not properly installed and maintained during and after the harvest operation. Road use during unfavorable weather conditions may contribute to an increased potential for surface erosion.

- g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? *Approximate percent of proposal in permanent road running surface (includes gravel roads):*
Less than 3% of this site will be covered with semi-impervious surfaces (forest gravel roads) after project construction.

- h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any: *(Include protection measures for minimizing compaction or rutting.)*
All roads will be constructed to meet or exceed Forest Practices standards and the Habitat Conservation Plan guidelines. Appropriate drainage devices including proper culvert size and placement, drain dips, water bars and ditching, will be used as necessary to reduce surface erosion. In areas adjacent to constructed roads where soil disturbances have

occurred, straw mulch, grass seed or some other appropriate measure will be used to prevent sediments from being transported.

Measures are in place to help reduce and control erosion.

Riparian (RMZ) and Wetland Management Zones (WMZ) buffers as described in B.3.a.1.b and c. will be retained.

For harvest activities, ground-based operations will generally be limited to sustained slopes of 40% or less. However, if self-leveling ground-based equipment is authorized, it may be used on sustained slopes 55% or less. Also, tethered equipment may be utilized. The lead end of the logs will be suspended during yarding to reduce soil disturbance. Skid trails will be water-barred as necessary.

2. Air

- a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

Minor amounts of engine exhaust from logging equipment and dust from vehicle traffic and logging equipment are expected while the project is active. Following harvest, logging slash debris may be reduced by accumulating it into piles and then burned.

- b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

None known

- c. Proposed measures to reduce or control emissions or other impacts to air, if any:

If slash is burned, it will be burned in adherence to the State's Smoke Management Plan.

3. Water

- a. Surface Water:

- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. (see timber sale map available at DNR region office, or forest practice application base maps.)

- a. **Downstream water bodies: Lake Chaplain, Sultan River, Skykomish River, Pilchuck River, Purdy Creek, and Woods Creek.**

b. Complete the following riparian & wetland management zone table:

Wetland, Stream, Lake, Pond, or Saltwater Name (if any)	Water Type	Number (how many?)	Avg RMZ/WMZ Width in feet (per side for streams)
Unnamed	Type 3	1	155'
Unnamed	Type 4	13	100'
Unnamed	Type 5	20	30' equipment limitation zone
Wetland greater than 1 acre in size	Forested	3	156'
Wetland greater than 0.25 acres but less than 1 acre	Forested	6	100'

c. List RMZ/WMZ protection measures including silvicultural prescriptions, road-related RMZ/WMZ protection measures, and wind buffers.

RMZ/WMZ buffers as listed in B.3.a.1.b. as well as the proposed measures to reduce or control erosion described in B.1.h provide protection measures for the surface waters in the vicinity of the proposal area.

Ditchwater will be diverted through relief culverts prior to stream crossing to keep sediment out of streams. Exposed soils will be grass seeded.

- 2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

No Yes (See RMZ/WMZ table above and timber sale map available at DNR region office.)

Description (include culverts): Timber will be felled within and immediately adjacent to the RMZs/WMZs described in the table in B.3.a.1.b. Variable density thinning is planned within some of these buffers. Timber will be felled away from the RMZs where practical in order to avoid damage to trees within the RMZs. A type 5 stream will be crossed with road construction. Road construction includes installation and removal of culverts through these typed waters. Logs may be placed in skid trail stream crossings to facilitate yarding and removed upon completion of yarding. Where yarding over type 5 streams is necessary, the leading edge of logs will be suspended to avoid disturbing the stream banks.

- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected.

Indicate the source of fill material.

None. Culverts will be placed at stream crossings so that no fill will be placed directly into the water.

- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. *(Include diversions for fish-passage culvert installation).*
 No Yes, description: **If necessary, all water flow may be temporarily diverted through bypass culverts or retained behind (or pumped around) coffer dams during culvert installations. Typed waters may be temporarily diverted, if culvert replacement is deemed necessary, through the course of operations on typed water crossing on existing roads.**
- 5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.
 No Yes, describe location:
- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.
 No Yes, type and volume:
- 7) *Does the sub-basin contain soils or terrain susceptible to surface erosion and/or mass wasting? What is the potential for eroded material to enter surface water?*
Yes. The following data was reported in the Department's GIS database in July 9, December 17 and October 29, 2018 (respectively). This data is not available by sub-basin.

Pilchuck Mountain WAU:

Erosion Potential	Acres	% in WAU	Mass Wasting Potential	Acres	% in WAU
High	5317.4	12.9	High	4569.9	11.1
Medium	3410.6	8.3	Medium	4969.7	12.0
Low	19707.5	47.7	Low	463	1.1
Variable	10.7	0.0	Insignificant	20663.1	50.0
No Data	9938.8	24.0	No Data	9938.8	24.0
N/A	2230.2	5.4			

Woods Creek WAU:

Erosion Potential	Acres	% in WAU	Mass Wasting Potential	Acres	% in WAU
High	27.4	0.1	High	27.4	0.1
Medium	2153.9	5.1	Medium	1304.8	3.1
Low	36314.9	85.4	Low	767.2	1.8
Variable	94.6	0.2	Insignificant	39151.2	92.1
No Data	248.3	0.6	No Data	248.3	0.6
N/A	2754.5	6.5			

Sultan River WAU:

Erosion Potential	Acres	% in WAU	Mass Wasting Potential	Acres	% in WAU
High	2249	9.6	High	603.5	2.6
Medium	1644.2	7	Medium	3018	12.9
Low	15252.1	65.2	Low	82.8	0.4
Variable	36.3	0.2	Insignificant	16223.5	69.4
No Data	2733.4	11.7	No Data	2733.4	11.7
N/A	782.5	3.3			

8) *Is there evidence of changes to the channels in the WAU and sub-basin(s) due to surface erosion or mass wasting (accelerated aggradations, erosion, decrease in large organic debris (LOD), change in channel dimensions)?*

No Yes, describe changes and possible causes:

At the WAU and sub-basin level, there is some evidence of aggradations and channel scouring from naturally occurring erosion.

9) *Could this proposal affect water quality based on the answers to the questions 1-8 above?*

No Yes, explain:

This proposal includes both the harvest of timber and road work. The removal of overstory vegetation will temporarily reduce interception of water and increase infiltration and saturation of water into the forest floor which could temporarily increase overland flow.

The protection measures identified in B.1.d.5 keep harvest activities away from potentially unstable slopes. RMZ/WMZ buffers (see B.3.a.1.b) and other operation control measures (see B.1.h) ensure that any overland flow from disturbed soil areas will filter through substantial amounts of forest-floor vegetation before entering any perennial stream channels.

Road work disturbs surface soils where some temporary surface erosion is likely to occur, especially with the first winter rains following road work at culvert installation locations and road abandonment related culvert removal locations. These installations and removals will follow Forest Practices Rules and RMAP requirements to minimize any erosion-related water quality impacts. See question B.1.h, B.3.a.1.c, and B.3.d. for a partial listing of some of the specific erosion protection measures.

10) *What are the approximate road miles per square mile in the WAU and sub-basin(s)? Are you aware of areas where forest roads or road ditches intercept sub-surface flow and deliver surface water to streams, rather than back to the forest floor?*

No Yes, describe:

Based on GIS report generated July 9, 2018: The Pilchuck Mountain WAU has ~3.5

road miles per square mile.

Based on GIS report generated December 19, 2018 The Woods Creek WAU has ~6.0 road miles per square mile.

Based on GIS report generated November 1, 2018: The Sultan River WAU has ~5.6 miles of road/square mile.

Data was not available for sub-basins.

11) *Is the proposal within a significant rain-on-snow (ROS) zone? If not, **STOP HERE** and go to question B-3-a-13 below. Use the WAU or sub-basin(s) for the ROS percentage questions below.*

No Yes, approximate percent of sub-basin(s) in significant ROS zone:

12) *If the proposal is within the significant ROS zone, what is the approximate percentage of the WAU or sub-basin(s) within the significant ROS zone (all ownerships) that is (are) rated as hydrologically mature?*

Does not apply.

13) *Is there evidence of changes to channels associated with peak flows in the WAU and sub-basin(s)?*

No Yes, describe observations in the WAU and in the sub-basin(s):

Channel changes have occurred at the WAU level. It is difficult to separate the effects of peak stream flow increases from the effects of mass wasting in stream channels. The effects are interrelated and often occur during the same storm events (See B.3.a.8).

14) *Based on your answers to questions B-3-a-10 through B-3-a-13 above, describe whether and how this proposal, in combination with other past, current, or reasonably foreseeable proposals in the WAU and sub-basin(s), may contribute to a peak flow impact.*

In accordance with the Woods Creek Watershed Analysis, a hydrology module was completed to assess the change in the rain on snow (ROS) potential score anticipated from this proposal. It was determined that the change in the ROS potential score would not exceed the threshold or exceed the threshold score of 5.5 set by the Watershed Analysis.

This proposal may slightly change the timing, duration, and amount of peak flow. Flow rates may increase slightly during low and high flow periods due to decreased transpiration and interception during the first decade of new forest growth. To minimize impacts, riparian buffers are established on Type 3 and 4 streams and on all wetlands over one-quarter acre in size, and prudent road-building techniques will be followed. (See B.3.a.1.b, B.3.a.1.c, B.3.a.2, B.3.a.9, and B.1.h)

- 15) *Is there water resource (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or downslope of the proposed activity that could be affected by changes in surface water amounts, quality, or movements as a result of this proposal?*

No

Yes, possible impacts:

Lake Chaplain is part of a catchment managed by the City of Everett and Snohomish P.U.D. #1 as a municipal water source and is downstream of a small portion of the proposal area. It is not likely that there will be effects to water quality because of this proposal. This is due in part to the distance between the proposal area and the resource. Other surface water protections measures (See B.3.a.1.b, B.3.a.1.c, B.3.a.2, B.3.a.3 and B.3.a.4) are also in place to ensure the mitigation of potential impacts.

- 16) *Based on your answers to questions B-3-a-10 through B-3-a-15 above, note any protection measures addressing possible peak flow/flooding impacts.*

As stated in B.3.a.14, it is not expected that this proposal will cause a significant increase in peak flows (See B.3.a.14). In order to minimize the risk of road failures during peak flow events, all culverts utilized in new road construction will be sized to withstand a 100-year flood event. Culverts and ditches will be maintained so that they remain functional. Storm patrols will be conducted as necessary on existing and newly constructed roads to identify and address potential erosion problems.

b. Ground Water:

- 1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

No groundwater will be withdrawn from a well for any purpose. Runoff from road surfaces will be diverted to stable areas on the forest floor through the use of ditches, culverts, and energy dissipaters.

- 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Minor amounts of oil, fuel and other lubricants may inadvertently be discharged to the ground as a result of heavy equipment use or mechanical failure. No lubricants will be disposed of on site.

- 3) *Is there a water resource use (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or down slope of the proposed activity that could be affected by changes in groundwater amounts, timing, or movements as a result this*

proposal?

No

Yes, describe:

a. Note protection measures, if any. **Does not apply.**

c. Water runoff (including stormwater):

- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Runoff from the road surfaces will be collected in ditches and diverted to stable areas on the forest floor through the use of ditches, culverts, and energy dissipaters.

- 2) Could waste materials enter ground or surface waters? If so, generally describe.

No

Yes, describe:

It is not anticipated that waste material will enter ground or surface water as a result of this proposal. See also B.3.b.2 and B.7.a.

a. Note protection measures, if any.

Existing regulation and contract requirements regarding spill prevention and waste cleanup will be followed. (see also B.3.a.1.c and B.3.c.1)

- 3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

This proposal should not alter drainage patterns in the vicinity of the site.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

Constructed ditches, cross-drain culverts, drain dips, and water bars will be used to control runoff. Straw mulch, grass seeding, or other appropriate methods may be used on any soil exposed cut and fill slopes during the course of this proposal in order to prevent sediment movement. Roads and landings will be crowned to avoid water accumulation. Falling and yarding away from all seasonal streams will be applied where feasible. All activities associated with this proposal will meet or exceed Forest Practices standards and will follow the Habitat Conservation Plan. See also B.1.d.5. and B.1.h.

(See surface water, ground water, and water runoff sections above, questions B-3-a-1-c, B-3-a-16, B-3-b-3-a, and B-3-c-2-a.)

4. Plants

a. Check the types of vegetation found on the site:

deciduous tree:

alder, maple, aspen, cottonwood, western larch, birch,
other:

evergreen tree:

Douglas fir, grand fir, Pacific silver fir, ponderosa pine,
lodgepole pine, western hemlock, mountain hemlock, Englemann
spruce, Sitka spruce, red cedar, yellow cedar, other:

shrubs:

huckleberry, salmonberry, salal, other:

grass

pasture

crop or grain

wet soil plants:

cattail, buttercup, bullrush, skunk cabbage, devil's club,
other:

water plants:

water lily, eelgrass, milfoil, other:

other types of vegetation: **trillium**

plant communities of concern:

b. What kind and amount of vegetation will be removed or altered? (See answers to questions A-11-a, A-11-b, B-3-a-1-b and B-3-a-1-c. The following sub-questions merely supplement those answers.)

As described in A.11, the overstory vegetation will be removed, with the exception of an average of eight trees per acre of 10 inches dbh or greater. This will ensure that a portion of the live trees that are best suited to the site, and /or exhibits desirable wildlife habitat characteristics will be left on site. Most of the current shrubs and herbaceous plants will be disturbed to varying degrees during the timber removal process of this proposal.

1) Describe the species, age, and structural diversity of the timber types immediately adjacent to the removal area. (See color landscape/WAU and adjacency maps on the DNR website:

<http://www.dnr.wa.gov/sepa>

(Click on the DNR region under the Topic "Current SEPA Project Actions - Timber Sales.")

The adjacent timber types range from young, uniform conifer stands, approximately 5 years of age to mature timber similar to the proposed removal area as described in A.11.b.

Retention tree plan:

The proposal will have an average of eight leave trees per acre remaining on site in the VRH portions of the proposal upon completion of harvest activities. Leave trees will be both scattered and in leave tree clumps.

Retained trees will provide wildlife habitat, older forest components, and a seed source to surrounding areas. This will ensure that trees best suited to the site, and/or which exhibit desirable wildlife habitat characteristics will be retained. The VRH portions of the proposal area will be planted with conifer seedlings at a stocking level that meets or exceeds Forest Practices standards.

- c. List threatened and endangered *plant* species known to be on or near the site.

None found in DNR's TRAX database search on July 9, 2018. No threatened or endangered plant species were identified during field work for this proposal.

- d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

- **An average of eight leave trees per acre will be clumped and scattered throughout the VRH portions of the proposal.**
- **RMZ/WMZs will be retained as listed in B.3.a.1.b.**
- **VRH portions of the proposal area will be planted with conifer species.**
- **Exposed soils adjacent to live waters, due to road construction, will be revegetated.**

- e. List all noxious weeds and invasive species known to be on or near the site.

The DNR TRAX indicates no known noxious weeds or invasive species. However, it is likely that Himalayan blackberry, bull thistle, Canadian thistle, or Scotch broom may be found on or near the site.

5. Animals

- a. List any birds and other animals or *unique habitats* which have been observed on or near the site or are known to be on or near the site. Examples include:

birds: hawk, heron, eagle, songbirds, pigeon, other: **marbled murrelet**

mammals: deer, bear, elk, beaver, other:

fish: bass, salmon, trout, herring, shellfish, other:

unique habitats: talus slopes, caves, cliffs, oak woodlands, balds,
mineral springs

Suitable marbled murrelet habitat block partially within Unit 2. See B.5.d.2. for more details.

- b. List any threatened and endangered species known to be on or near the site *include federal- and state-listed species*).

DNR's TRAX system indicates no known threatened, endangered, or special concern species on or near the proposal site in a database search on January 30, 2019. No threatened, endangered, or species of concern were identified during field work for this proposal. For more information, see the wildlife memo available at the Northwest Region office.

- c. Is the site part of a migration route? If so, explain.

Pacific flyway Other migration route: *Explain if any boxes checked:*

All of Washington State is considered part of the Pacific Flyway. No impacts are anticipated as a result of this proposal.

- d. Proposed measures to preserve or enhance wildlife, if any:

- 1) *Note existing or proposed protection measures, if any, for the complete proposal described in question A-11.*

Species /Habitat:

Stream and wetland riparian habitat.

Protection Measures:

All activities associated with this proposal will meet or exceed Forest Practices standards and the Habitat Conservation Plan. See B.1.h., B.3.a.1.b., B.3.a.1.c., B.3.a.2., B.3.a.3., B.3.a.4., B.3.a.9., B.3.a.16., B.3.d., B.4.b.2., and B.4.d.

- 2) Species /Habitat:

Marbled murrelet

Protection Measures:

The stand was assessed by field foresters for marbled murrelet habitat. A 5.4 acre patch of newly-identified suitable habitat fitting the description of marginal marbled murrelet nesting habitat was discovered in the proposal area. According to the NPPU Interim Murrelet Strategy (aka 2007 Ken Berg memo), this type of habitat is not required to be deferred. A field consultation with the Washington Dept. of Fish and Wildlife (WDFW) and review of the potential habitat patch occurred on December 19, 2018. It was agreed that the habitat is of low enough quality that it does not require deferment from harvest. See Biologist Memo and/or WDFW MM Habitat Consultation Memo from region biologist for details.

- e. List any invasive animal species known to be on or near the site.

No invasive animal species were identified during field work for this proposal, and none were found in a database search of DNR's TRAX system on January 30, 2019.

6. Energy and natural resources

- a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.
Does not apply.
- b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.
Does not apply.
- c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:
Does not apply.

7. Environmental health

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

There is minimal anticipated hazard from heavy equipment operations. There is a slight chance of hydraulic or oil spills from equipment operating on the site. There is also a potential fire hazard if operations occur in moderate to severe fire weather conditions during summer months. The timber sale contract contains language that addresses hazardous materials spill prevention; hazardous material spill containment, control and cleanup; hazardous material release reporting. If any toxic or hazardous chemical spill occurs, or if past contamination is discovered, the Department of Ecology will be notified. The contract also contains language for operations during fire season.

- 1) Describe any known or possible contamination at the site from present or past uses.
No site contamination is known presently or from past uses.
- 2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.
No existing hazardous conditions are present in the vicinity.
- 3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

Petroleum products such as gasoline, diesel, grease, and hydraulic fluid may be used and stored during the operating life of this project. In addition, various herbicides may be used on the site for vegetation management.

- 4) Describe special emergency services that might be required.
 - **Firefighting by the Department of Natural Resources, possibly supported by local fire districts.**
 - **Emergency medical and/or ambulance service for personal injuries.**
 - **Responses by the Department of Ecology if a spill were to occur.**
- 5) Proposed measures to reduce or control environmental health hazards, if any:
Safe operation of all equipment will be encouraged. Industrial restrictions and precaution levels regarding forest fire protection will be enforced. The timber purchaser will be required to have fire suppression equipment on site during the restricted fire season while harvest activity is ongoing and operations will cease if relative humidity falls below 30%.

b. Noise

- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?
None.
- 2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Noise from rock drilling/crushing machinery, rock blasting, road building, and logging equipment such as chain saws, yarding whistles, and log/dump trucks will increase during periods of operation, typically occurring between 4 a.m. and 5 p.m. on weekdays, on a short-term basis. Noise from log hauling will be present along the haul routes during operations.

- 3) Proposed measures to reduce or control noise impacts, if any:

Noise associated with harvest and road construction activity will be minimal anywhere but in the vicinity of the proposal. Harvest activity and log hauling are historic activities in the area and noise should not be present above customary levels.

8. Land and shoreline use

- a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe. *(Site includes the complete proposal, e.g. rock pits and access roads.)* **The entire area is designated for timber production, which will not be affected.**

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use? **The proposal area is forest land. No conversion is planned.**

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how: **No.**

c. Describe any structures on the site. **None.**

d. Will any structures be demolished? If so, what? **No.**

e. What is the current zoning classification of the site? **Commercial forestry.**

f. What is the current comprehensive plan designation of the site? **Commercial forestry.**

g. If applicable, what is the current shoreline master program designation of the site? **Does not apply.**

h. Has any part of the site been classified as a critical area by the city or county? If so, specify. **No.**

i. Approximately how many people would reside or work in the completed project? **Does not apply.**

j. Approximately how many people would the completed project displace? **Does not apply.**

k. Proposed measures to avoid or reduce displacement impacts, if any: **Does not apply.**

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any: **This project is consistent with current comprehensive plans and zoning regulations.**

m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any: **Does not apply.**

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing. **Does not apply.**

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing. **Does not apply.**

c. Proposed measures to reduce or control housing impacts, if any: **Does not apply.**

10. Aesthetics

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed? **Does not apply.**
- b. What views in the immediate vicinity would be altered or obstructed?
- 1) *Is this proposal visible from a residential area, town, city, developed recreation site, or a scenic vista?*

No Yes, viewing location: **The proposal is visible from Mt. Pilchuck State Park.**

- 2) *Is this proposal visible from a major transportation or designated scenic corridor (county road, state or interstate highway, US route, river, or Columbia Gorge SMA)?*

No Yes, scenic corridor name:

- 3) *How will this proposal affect any views described in 1) or 2) above?*
Although this proposal will be visible to the public, the majority of the landscape where this proposal will occur is managed as commercial forest land, and as such consists of forest stands with a wide range of age classes, including recently harvested areas.

- c. Proposed measures to reduce or control aesthetic impacts, if any:

Timber harvesting is a normal occurrence in the vicinity of the proposal. Recent timber harvests are between 5 and 25-years-old and are visible throughout the area. The sale is a Variable Retention Harvest where an average of 8 trees per acre will be retained across the proposal area. This sale does not represent a significant departure from usual and common activities.

11. Light and glare

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur? **Does not apply.**
- b. Could light or glare from the finished project be a safety hazard or interfere with views? **Does not apply.**
- c. What existing off-site sources of light or glare may affect your proposal? **Does not apply.**
- d. Proposed measures to reduce or control light and glare impacts, if any: **Does not apply.**

12. Recreation

- a. What designated and informal recreational opportunities are in the immediate vicinity?

Informal recreational use throughout the area may include target shooting, hunting, fishing, camping, hiking, mountain biking, and horseback riding.

- b. Would the proposed project displace any existing recreational uses? If so, describe.

Temporary displacement of recreational activities could occur during periods of active harvest operations.

- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any: **Recreational use immediately adjacent to and within the proposal units may be temporarily restricted during active harvest operations for safety concerns. No permanent displacement of existing designated or informal recreational opportunities will occur as a result of this proposal.**

13. Historic and cultural preservation

- a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers located on or near the site? If so, specifically describe.

Yes. An archaeological/historical site exists in Section 19, 20, 29 and 28 or Township 29 North, Range 08 East. These sites are made up of historic logging properties and have been reviewed by an agency archaeologist.

- b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

None known.

- c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

In coordination with an agency archaeologist, a logging plan has been developed to minimize any damage to portions of historic logging properties within the proposal area. As of 1/30/2019 this plan is submitted to the Department of Archaeology and Historic Preservation (DAHP). In addition, some portions of these historic logging properties have been bound out of the proposal area.

The Tulalip Tribes, Stillaguamish Tribe of Indians, Lummi Nation, and Snoqualmie Indian Tribe were contacted on January 21, 2019. No response has been received.

- d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

Any cultural resources identified during operations will be protected. Should other

archaeological materials or cultural items be discovered during the course of operations, the DNR's Cultural Resource Inadvertent Discovery Guidelines will be followed.

14. Transportation

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any. **There are no public streets or highways that serve the site. There will be no addition of public roads to access the site as a result of this proposal.**

1) *Is it likely that this proposal will contribute to an existing safety, noise, dust, maintenance, or other transportation impact problem(s)?* **No.**

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop? **No.**

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate? **Does not apply.**

d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

New forest roads will be constructed as part of the proposal. See A.11.c.

1. *How does this proposal impact the overall transportation system/circulation in the surrounding area, if at all?* **Apart from log hauling traffic during the course of operations, this proposal will have minimal impact on the overall transportation system in the surrounding area.**

e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe. **Does not apply.**

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?

The completed project will generate less than one vehicular trip per day on average. Up to 30 vehicular trips per day could occur during peak harvest activities. These trips would occur primarily between the hours of 4 a.m. and 5 p.m. on weekdays.

g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe. **No.**

h. Proposed measures to reduce or control transportation impacts, if any: **None.**

15. Public services

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe. **No.**

- b. Proposed measures to reduce or control direct impacts on public services, if any. **None.**

16. Utilities

- a. Check utilities currently available at the site:
electricity natural gas water refuse service telephone sanitary sewer
septic system other:
None.

- b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.
None.

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature:  _____

Name of signee Zachary Boston

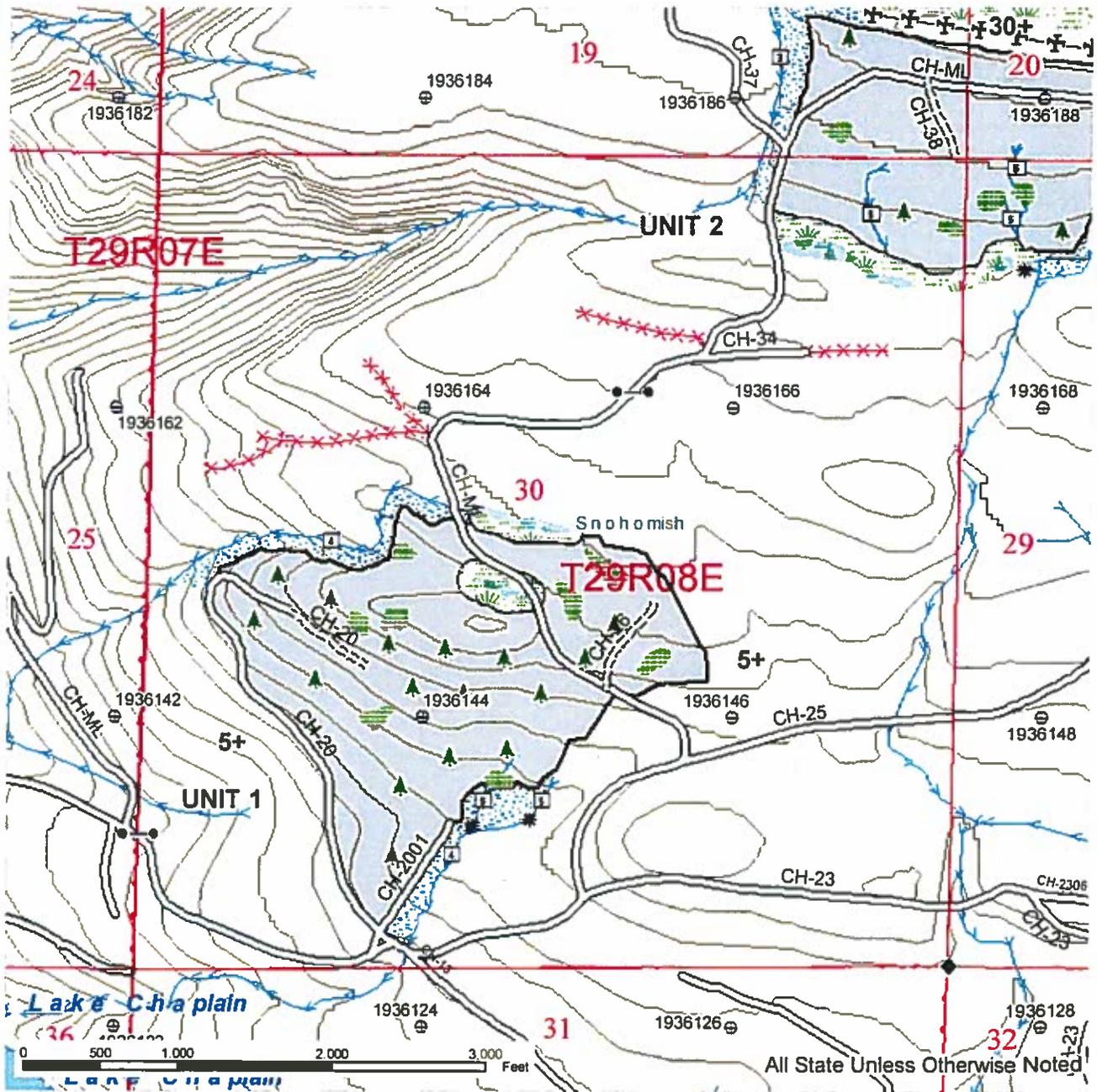
Position and Agency/Organization Forester / WA DNR

Date Submitted: _____

FOREST PRACTICES ACTIVITY MAP

SALE NAME: SADDLE UP
 APPLICATION #: TBD by FP Staff

COUNTY(S): Snohomish
 TOWNSHIP(S): T29R7E, T29R8E



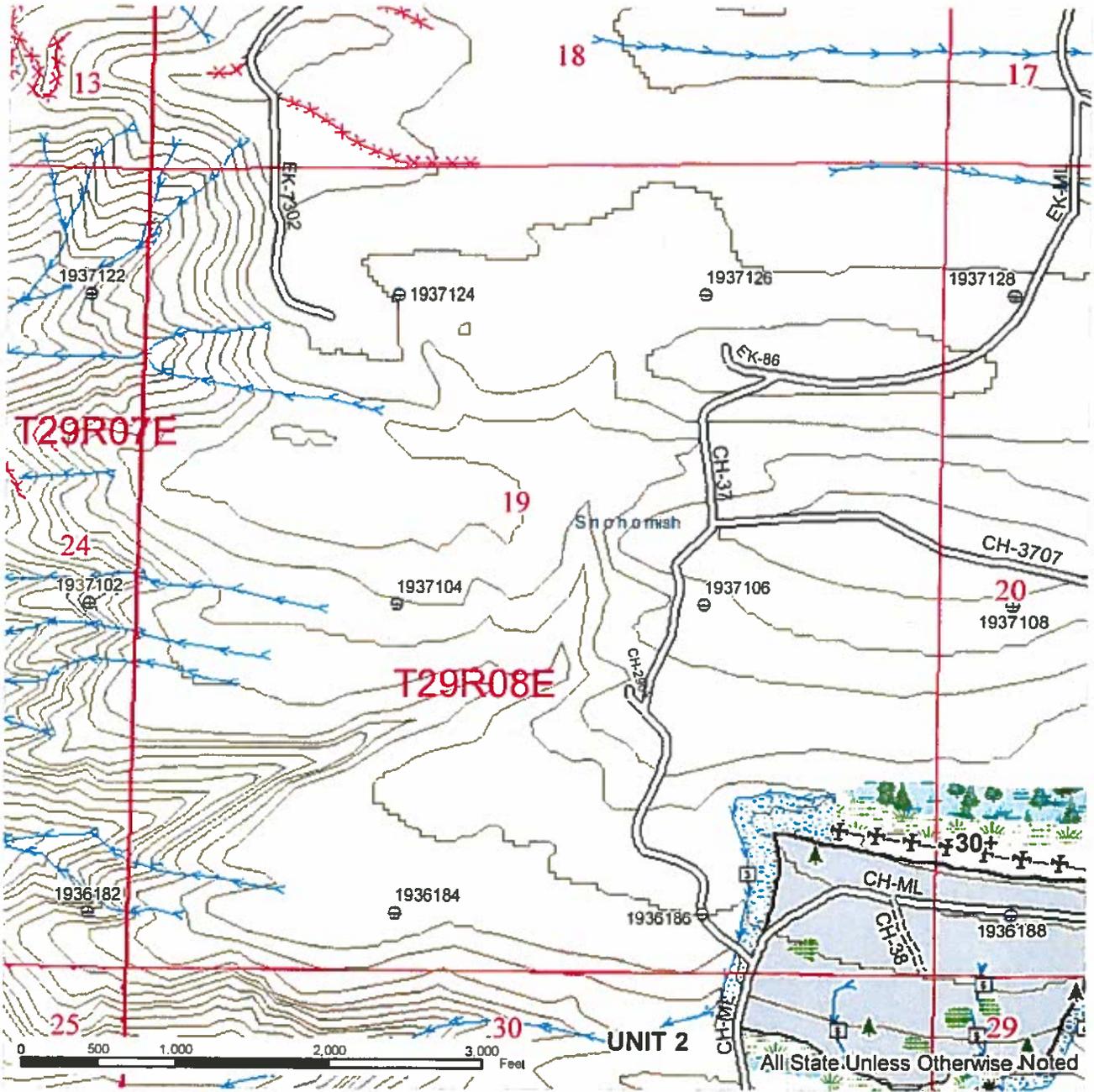
Sale Area	Existing Roads	Streams
Tics - 2000' Interval	New Construction <i>Temporary</i>	Stream Type
Leave Tree Area	Existing Abandon/Orphan Road	Stream Type Break
Riparian Mgt Zone	Operational Break	Leave Tree Area <1/4-acre
Forested Wetland		Gate
Wetland Mgt Zone		



FOREST PRACTICES ACTIVITY MAP

SALE NAME: SADDLE UP
 APPLICATION #: TBD by FP Staff

COUNTY(S): Snohomish
 TOWNSHIP(S): T29R7E, T29R8E

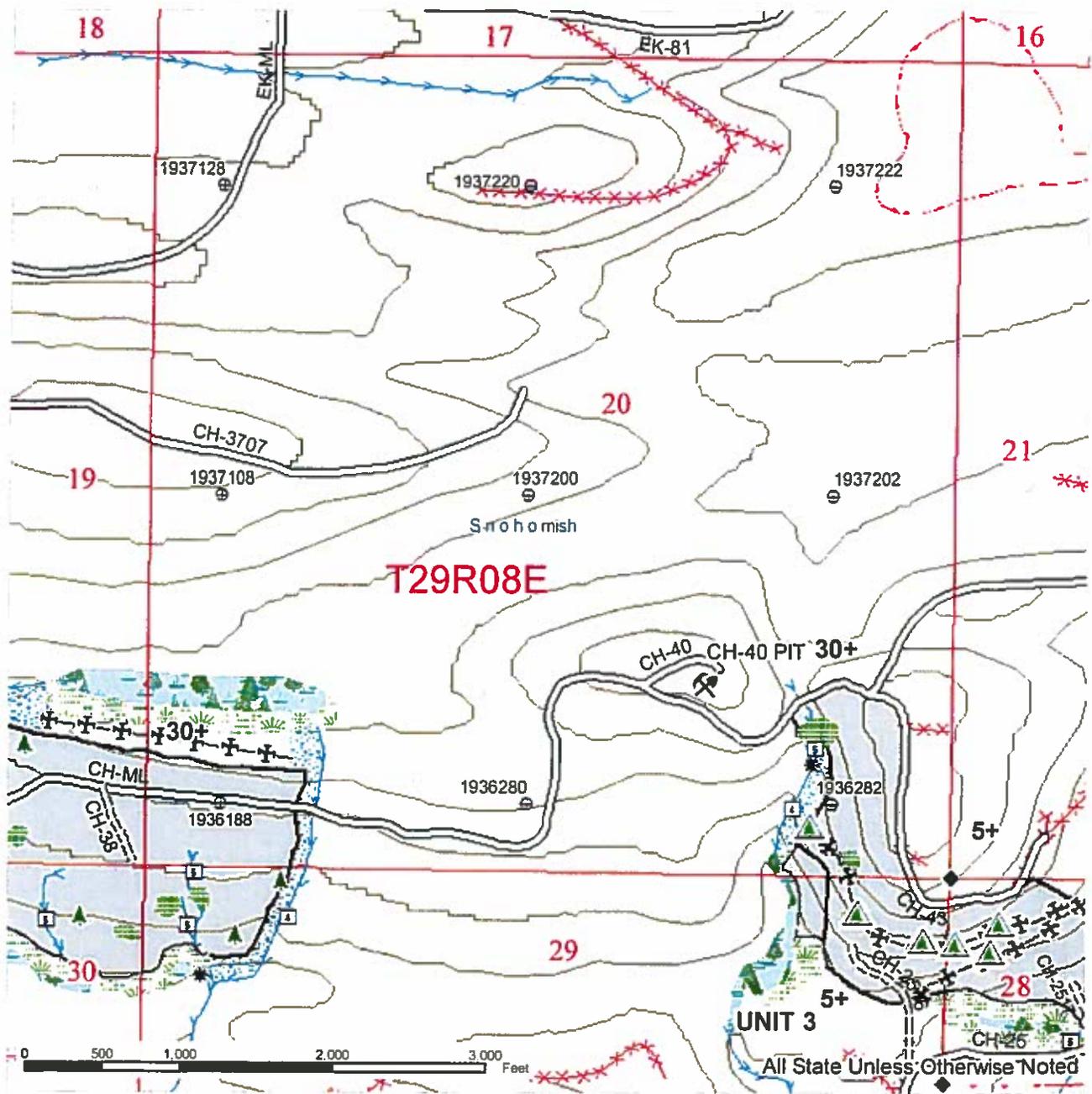


Sale Area	Existing Roads	Streams
Tics - 2000' Interval	New Construction <i>Temporary</i>	Stream Type
Leave Tree Area	Existing Abandon/Orphan Road	Stream Type Break
Riparian Mgt Zone	Operational Break	Leave Tree Area <1/4-acre
Forested Wetland		
Wetland Mgt Zone		

FOREST PRACTICES ACTIVITY MAP

SALE NAME: SADDLE UP
 APPLICATION #: TBD by FP Staff

COUNTY(S): Snohomish
 TOWNSHIP(S): T29R7E, T29R8E

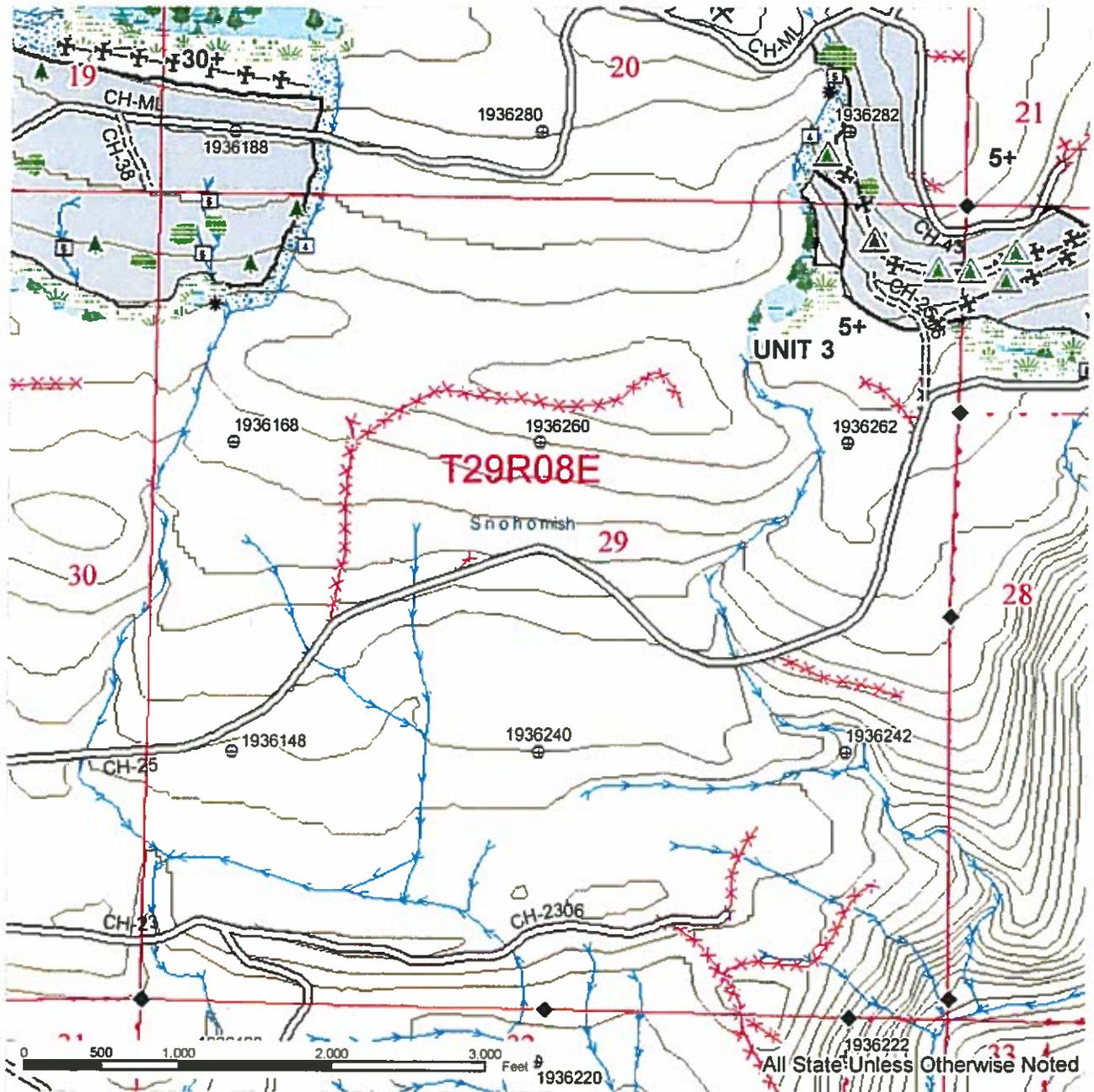


Sale Area	Existing Roads	Streams
Tics - 2000' Interval	New Construction <i>Temporary</i>	Stream Type
Leave Tree Area	Existing Abandon/Orphan Road	Stream Type Break
Riparian Mgt Zone	Operational Break	Leave Tree Area <1/4-acre
Forested Wetland		Non-Tradeable Leave Trees
Wetland Mgt Zone		

FOREST PRACTICES ACTIVITY MAP

SALE NAME: SADDLE UP
 APPLICATION #: TBD by FP Staff

COUNTY(S): Snohomish
 TOWNSHIP(S): T29R7E, T29R8E



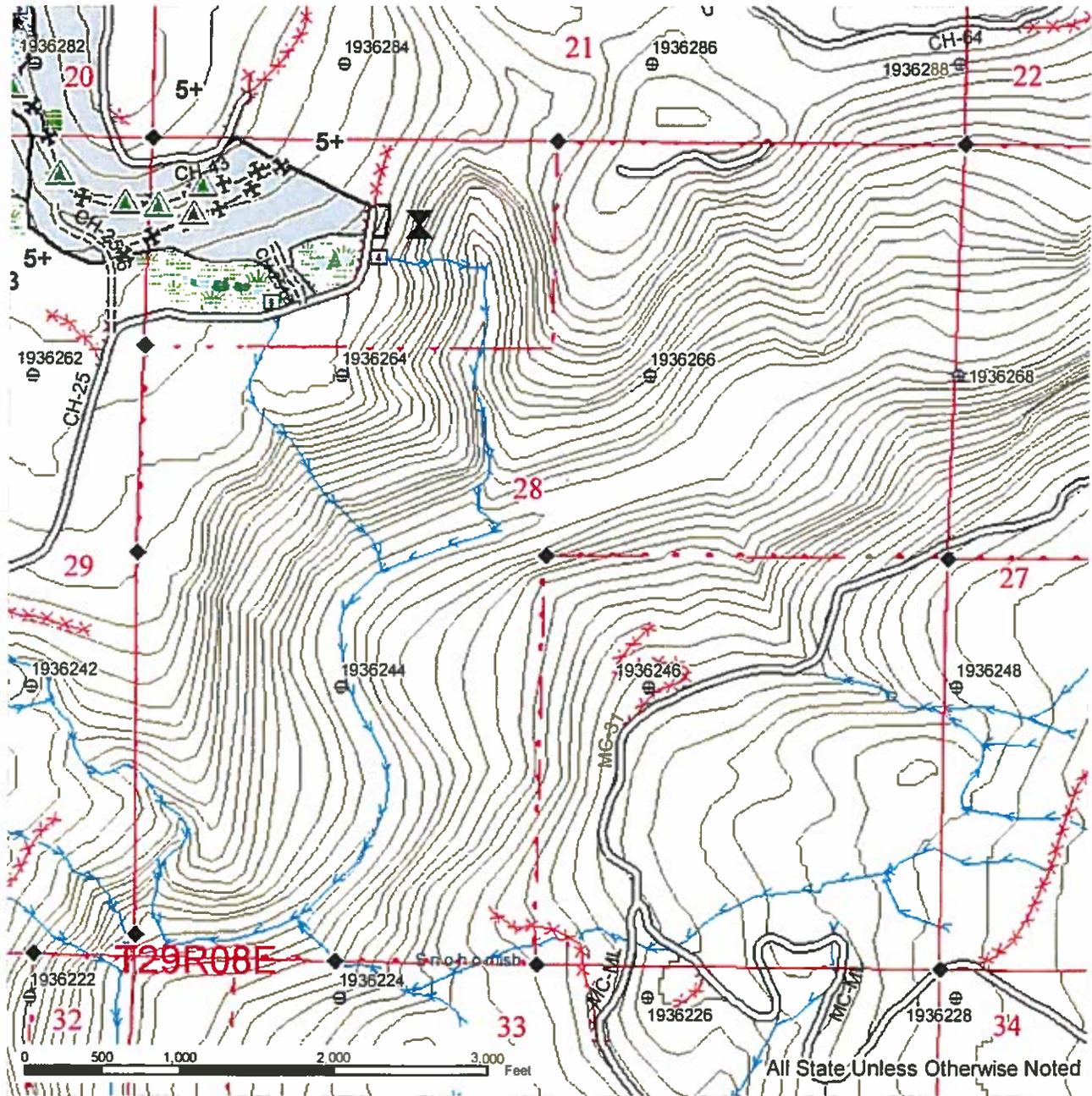
Sale Area	Existing Roads	Streams
Tics - 2000' Interval	Construction <i>Temporary</i>	Stream Type
Leave Tree Area	Existing Abandon/Orphan Road	Stream Type Break
Riparian Mgt Zone	Operational Break	Leave Tree Area <1/4-acre
Forested Wetland		Non-Tradeable Leave Trees
Wetland Mgt Zone		



FOREST PRACTICES ACTIVITY MAP

SALE NAME: SADDLE UP
 APPLICATION #: TBD by FP Staff

COUNTY(S): Snohomish
 TOWNSHIP(S): T29R7E, T29R8E



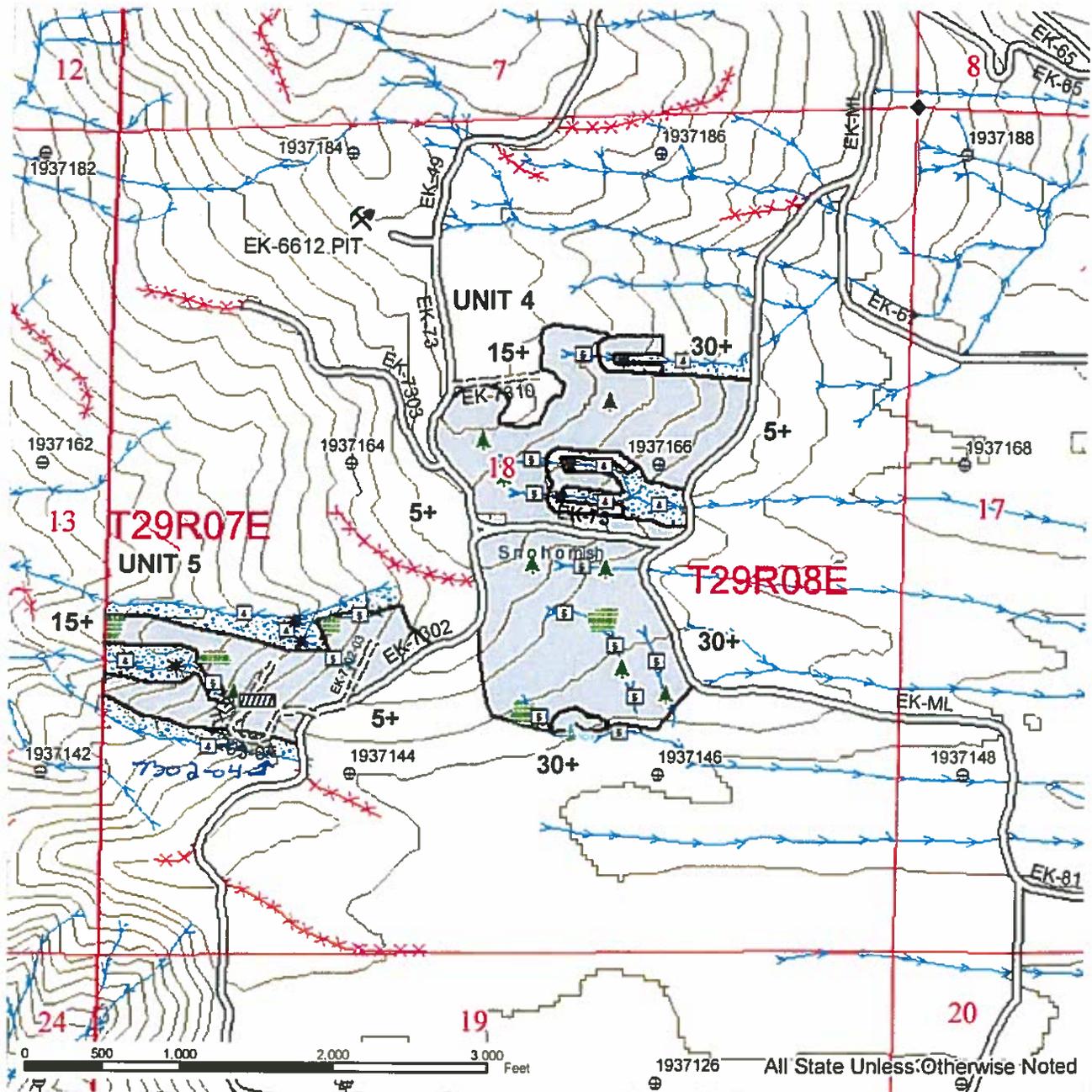
Sale Area	Existing Roads	Streams
Tics - 2000' Interval	Construction <i>Temporary</i>	Stream Type
Leave Tree Area	Existing Abandon/Orphan Road	Stream Type Break
Riparian Mgt Zone	Operational Break	Non-Tradeable Leave Trees
Forested Wetland	Potentially Unstable Slopes	
Wetland Mgt Zone		



FOREST PRACTICES ACTIVITY MAP

SALE NAME: SADDLE UP
 APPLICATION #: TBD by FP Staff

COUNTY(S): Snohomish
 TOWNSHIP(S): T29R7E, T29R8E



Sale Area	Existing Roads	Streams
Tics - 2000' Interval	Construction <i>Temporary</i>	Stream Type
Leave Tree Area	Existing Abandon/Orphan Road	Stream Type Break
Riparian Mgt Zone	Leave Tree Area <1/4-acre	Culvert
Forested Wetland		